ABSTRACT OF THE DISCLOSURE

A call flow server is disclosed that processes call flow events from a plurality of gateways bridging between traditional circuit-switched networks and packet-switched networks. The call flow server server, which may be implemented with either a single processor or multi-processor design, includes call flow engine and call flow thread manager modules capable of managing a plurality of call flow events by distributing the call flow scripts associated with such events among a plurality of threads executing on the call flow server. Each call flow event in the form of a call flow script is processed on a single thread within a selected processor. Processing each call flow script on a single thread fully utilizes the processor resources and ensures that a call flow script need not be blocked while another call flow script is running. The call flow server includes a thread manager to direct a given call flow script to a thread that has excess capacity.